State of Utah

Department of
Natural Resources

Division of
Oil, Gas & Mining

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February 3, 2004

CERTIFIED RETURN RECEIPT
7099 3400 0016 8896 3038

Michael Dalley
Staker & Parson Companies
151 West Vine Street
Murray, Utah 84107

Re: Initial Review of Notice of Intention to Commence Large Mining Operations, Staker & Parson Companies, Beck Street Operations, M/035/019, Salt Lake County, Utah

Dear Mr. Dalley:

The Division has completed our review of your draft Notice of Intention to Commence Large Mining Operations for the North Beck Street Operations, located in Salt Lake County, Utah, which was received April 2, 2003. After reviewing the information, the Division has the following comments which will need to be addressed before tentative approval may be granted.

The comments are listed below under the applicable Minerals Rule heading. Please format your response in a similar fashion. **Please address only those items requested in the attached technical review. You may send replacement pages of the original mining notice using redline and strikeout text, so we can see what changes have been made. After the notice is determined technically complete and we are prepared to issue final approval, we will ask that you send us two copies of the complete and corrected plan. Upon final approval of the permit, we will return one copy stamped "approved" for your records.** Please provide a response to this review by March 3, 2004.

The Division will suspend further review of the Beck Street Operations Notice of Intention until your response to this letter is received. If you have any questions in this regard please contact me or Doug Jensen of the Minerals Staff. If you wish to arrange a meeting to sit down and discuss this review, please contact

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us at your earliest convenience. Thank you for your cooperation in completing this permitting action.

Sincerely,

D. Wayne Hedberg
Permit Supervisor
Minerals Regulatory Program

jb
Attachment Review
cc Lynn Pace, Asst City Attorney, Salt Lake City Corporation
Doug Jensen, DOGM
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INITIAL REVIEW OF NOTICE OF INTENTION TO COMMENCE LARGE MINING OPERATIONS

Staker & Parson Companies
North Beck Street Operations

M/035/019

R647-4-104 - Operator's, Surface and Mineral Ownership

The legal description of the Beck Street Operation should be amended to include Section 24 (DJ)

R647-4-105 - Maps, Drawings & Photographs

105.1 Topographic base map, boundaries, pre-act disturbance

The new ultimate pit maps received from Staker & Parson on December 15, 2003 needs to be incorporated into this plan. Acreage figures and final highwall configurations stated in the plan should be adjusted to those indicated in these new drawings. (DJ)

105.2 Surface facilities map

The December 15, 2003 surface map should be modified to show mining related facilities and equipment located within the permit area. (DJ)

R647-4-106 - Operation Plan

106.2 Type of operations conducted, mining method, processing, etc.

The plan states that a total of 357 acres will be disturbed during this operation. The cross section map submitted on December 15, 2003 indicates that the total disturbance is 345.08 acres. Please rectify these differences. (DJ)

106.3 Estimated acreages disturbed, reclaimed, annually.

See comment under Section 106.2

106.4 Nature of materials mined, waste and estimated tonnages

Are the tonnage figures and mine life reported in the plan reflective of the final pit configurations submitted December 15, 2003? If there is a difference, please adjust the final tonnage figures to match these new pit configurations. (DJ)

4.8 Extent of Overburden Material

The plan states that there is no overburden material remaining to be mined in the North Pit.

Is this fact still correct considering the fact that the latest maps have relocated the final highwall in this area? (DJ)

4.8 Geology of the Pit Area

The geology stated in this portion of the plan delineates the geology in portions of Section 14 and 23.

The ultimate pit limits are located in Sections 13 and 24. Please include a description of the geology in these sections. (DJ)

106.5 Existing soil types, location, amount

Section 4.5 says all recoverable topsoils have been removed during the extensive previous mining operations on the property. This statement may have been correct about the area shown to be mined in the April 2003 plan. The plan has been changed; mining will now go near the east property boundary along the entire property line. The Division believes there are undisturbed soils on the northeast portion of the property that is available to be salvaged prior to mining. Also in this area are soils that have been disturbed but which should still be available to be salvaged. (PBB)

Assuming the Division is correct and that there are soils that could be salvaged, the operator needs to provide a map showing which areas of the mine have been disturbed, and where soils have already been stripped. This map, together with information about soil depth, would help to establish how much soil would be available to use during final reclamation. (PBB)

The plan needs to contain information about the depths of soils in areas where soil can be salvaged. The plan contains general descriptions of soils in the area, and this description is adequate for those areas where the soils have been stripped. It is not adequate, however, for those areas where the Division believes soil could still be salvaged. Because of the types of parent materials and because of the geomorphic locations of soils on the slopes, the Division is not too concerned about the chemical composition of these soils. Rather, the more important issue in identifying the soils to be salvaged is knowing how much is available. (PBB)

Using the information about depths and locations of soils, the operator needs to show how much soil can be salvaged and needs to apply this information to the soils reclamation plan. How much soil can be applied to areas that need to be revegetated needs to be documented for bonding purposes. (PBB)

The Division and the operator need some information about material that would be within the rooting zone in the pad area. Soils that existed in this area prior to any disturbance had increased salt concentrations, but this area has obviously

been highly impacted by Staker's operations. The plan as presented is to revegetate the pad area without topsoil, and even if soil were placed over this area, the pad would still probably be in rooting zone. Materials in the pad are likely to have contaminants like salts and oils that could adversely affect plant growth. The Division and operator need to know what problems may be encountered and what remedial actions may be required. Please present a plan for making this determination. Because any remedial actions would need to be included as part of the reclamation plan and the bonding calculations, the Division needs this information at this time. (PBB)

106.6 Plan for protecting & redepositing soils

The plan says there is no remaining topsoil in the area of proposed new mining that could be recovered and stockpiled. (PBB)

As discussed above, some soil on the east side of the property should be available to be stockpiled. If this is correct, the operator needs to present a plan for salvaging, protecting, and redepositing this soil. The Division anticipates this soil could be used in reclamation of disturbances that will be created above the highwalls, possibly on the highwall benches, and in the main pad area. (PBB)

Because it is uncertain how much soil might be available to the east of the current disturbances, it is also not certain what depth of soil could be placed on the disturbances. Once the amount of soil available to be salvaged has been quantified, please provide a plan for distribution of the available soil to areas that will be revegetated and include the costs for this activity in the surety estimate. (PBB)

The plan discusses placing rocks and berms on the highwall benches. If it is possible to access these benches for these purposes, it should also be possible to place soil on at least some of them and to place seed in these areas. The plan needs to address this issue and discuss how much soil might be needed for areas of the highwall benches where soil is to be placed. If inadequate soil were available, would it be possible to use a substitute soil, such as reject fines and composted manure, on the benches? (PBB)

The plan indicates all overburden material is processed and used as product. If the material is processed and sold, is it overburden? These statements that all overburden is processed and sold also imply that soil is being treated as overburden or product and is being sold. Is this correct? (PBB)

Item 5 in Section 7.5, Page 20, says wash plant fines may be used as a growth medium on the pit bottom if needed. Before these fines are used as a substitute

soil, the Division and the operator need to know the physical and chemical nature of this material. Could it interfere with plant growth? How much of this material will there be and where will it be placed during reclamation? (PBB)
This analysis is necessary because if amendments are necessary in order to use this material as a growth medium, the cost of this treatment should be included in the surety estimate. (DJ)

106.7 Existing vegetation - species and amount

The application includes lists of species occurring in and east of the operations area but does not include quantitative cover data. Although this data is not available for the disturbed areas, the undisturbed areas immediately above the quarry probably have vegetative cover and species composition similar to what existed in the quarry area prior to any disturbance.
The information needed does not need to be extremely detailed, but there should be enough samples from each vegetation community to give some confidence in the accuracy of the data, perhaps ten samples from each community as long as there is not a great amount of variability. (PBB)

106.9 Location & size of ore, waste, tailings, ponds

Please provide more detailed discussion of the drainage on the existing property. It is unclear how this will change over time, as the property is developed. How are ponds incorporated into controlling drainage? How will the drainage primarily from Lime Canyon and Jones Canyon be handled in the construction of the final benches and pads? Also, please clarify the transition in drainage plan from the operation phase to the final reclamation phase. (TM)

R647-4-107 - Operation Practices

107.1 Public safety & welfare

107.1.15 Constructing berms, fences, etc. above highwalls

Because there will not be a transition zone above the highwall, the plan should be changed to include the placement of a berm, a minimum of 4 feet in height, the entire distance above the final highwall. (DJ)

107.2 Drainages to minimize damage

The current drainage patterns are not clearly identified on the existing topography drawing. This issue is important, from the standpoint, that the plan discusses several reclamation issues that need to be accomplished during the operation phase of the plan. These reclamation drainage issues also dovetail with the stability of routing the drainage down the highwall both during operations and during final reclamation. The final pit limit map shows how the highwalls will be

laid out. The issues that need to be discussed and shown on the appropriate figures are drainage down the highwall and how best to handle drainage during and following operation. On Page 13 of the NOI, it states "The Pit floor currently slopes toward the east, and would continue to do so under the final reclamation condition." This would tend to create a ponding situation and contradicts the statement that drainage will fan out to aid in revegetation. What actually is going to occur? The operator will supply drainage calculations and watershed maps for the 100 year 6 hour storm for the two drainages found on site. (TM)

107.3 Erosion control & sediment control

Erosion of the highwall and the creation of sediment are handled by the placement of a pond at the bottom of the highwall during operations. This seems an appropriate thing to do to possibly aid in habitat during the final phase. It seems prudent that a buffer zone be left between the highwall and the proposed final pad area, whatever its use. A pond or several ponds could be incorporated into this designs, rather than let the water run where it might go, unless there is a better reason for this method other then aiding in revegetation. (TM)

107.6 Concurrent reclamation

The highwall benches will be accessible as they are mined, but they will become inaccessible as the mine progresses to lower levels. Before the mine proceeds beyond a bench, the operator will build a berm near the edge of each bench, and at this time, it would be possible to apply any available soil or amended substitute soil and to seed the benches. Revegetation of this sort cannot wait until final reclamation; it would need to be done concurrently with the mining operation. Although fall is the best time to seed, the Division recognizes that this might not always be possible in seeding these benches. Establishing some vegetation in these areas would limit the number of weeds, particularly noxious weeds that would likely grow on the benches in these areas if no revegetation attempts are made. (PBB)

R647-4-109 - Impact Assessment

109.1 Impacts to surface & groundwater systems

The plan states that mining operations are not expected to interfere with the Lime Canyon Spring located in the northernmost portion of the Staker & Parson property. The map titled Final Limit Map received December 15, 2003 indicates that mining in that area will pass through the area where the Lime Canyon Spring is shown to be located on the enclosed maps.

What impact will mining through this feature cause to Lime Canyon Spring? Please state what the plan is for mitigating the impacts of mining to the spring in this area. (TM+DJ)

Please provide an explanation for the 2.3 mg/l oil and grease in the Staker Well. Please provide some comparison water quality data from other sources (USGS, etc.) that documents this aquifer's characteristics and show these sources on a map. The Division needs to know that Staker is not having a direct impact on this aquifer and if this aquifer has a beneficial use, ground water designation, according to the State's Division of Water Quality. Please provide your groundwater protection permit or if you do not have one please, contact the Department of Environmental Quality, Division of Water Quality, groundwater section, (801-538-6146) to obtain one. (TM)

The plan does not identify the water rights found in the surrounding area and must provide this information as part of the plan and show them on a map. An assessment of the potential impacts to these water rights must be included in the plan. This information can be accessed through the Division of Water Rights website using section, township and range to locate the areas of potential impact. (TM)

In addition to the ground water protection permit, the mines need a Storm Water Pollution Prevention Plan and include this in the permit, as well as, have a copy available on site. If there is any surface water discharge, a UPDES permit will be required. The UPDES permit can be obtained from the State Department of Environmental Quality, Division of Water Quality, surface water section. (TM)

109.4 Slope stability, erosion control, air quality, safety

The plan states that large boulders and large rock will be placed in areas where runoff water is expected to concentrate.
Please show approximate locations on the final highwall plan. Please include a line item for this activity and cost in the surety estimate. (DJ)

The plan also states that placing rock piles will similarly control the discharging spring water from Lime Canyon Spring.
An estimate of the number of benches that will need these rock piles and approximate location should be shown on a map of the final highwall. A cost for this placement should also be included in the surety estimate. (DJ)

The plan states that during final reclamation the pit floor will be slightly manipulated to maximize the spread of water across the area.
Please discuss what this manipulation will entail and what equipment will be required to complete this task. Also include the cost of this activity in the surety estimate. (DJ)

109.5 Proposed mitigation measures

The plan states that in order to mitigate the surface water overflow from Lime Canyon spring, this source could be contained and piped for use in the operations area.

While piping the water from the spring for use in operations is stated as a possibility, no commitment has been made in the plan for completion of this task. Please include a plan describing the final plan for control or use of this water. Also include the cost of this activity in the surety estimate. (TM+DJ)

R647-4-110 - Reclamation Plan

110.1 Current & post mining land use

Because the proposed postmining land use of the pad area would be light industrial, the reclamation plan needs to include two separate reclamation options for the area:

1. **Premining land use.** The current plan shows the pad being revegetated such that it could be suitable for the premining land use, i.e. wildlife habitat. While this plan needs some modifications as discussed in this review, the concept of including this as part of the reclamation plan is correct. (PBB)

2. **Light industrial postmining land use.** The land use section of the plan says the proposed postmining land use on the pit floor would be light industrial but that the area may also be used to improve the transportation corridor through the area. This appears to be a legitimate use, but the Division cannot give final approval to such a proposal without lease agreements, evidence that the land use meets zoning requirements, letters of intent, etc. These will probably not be in place until just before the mine ceases operations. In the meantime, the Division needs to maintain a bond sufficient to restore the site to the premining land use. (PBB)

The plan for final reclamation to an industrial site does not need to include every detail, but it does need to show how the site will be prepared so it is suitable for this use. (PBB)

No matter how stable the highwall is upon mine closure, there is the potential for rocks or other material to come off the slope. Therefore, even if the site is developed for industrial use, there needs to be a revegetated buffer area near the highwall where there is no development. While a complete site development plan is not needed at this time, the application does need to contain at least this level of detail. (PBB)

There appears to be enough flow from Lime Spring that some form of wildlife habitat enhancement in the form of a pond at the base of the highwall would be possible. The Division suggests that a pond surrounded with trees and shrubs would be compatible with either an industrial or a wildlife postmining land use. (PBB)

110.2 Roads, highwalls, slopes, drainages, pits, etc., reclaimed

In Section 6.1.1 (page 13), the plan says the pit floor currently slopes gently toward the east and that it would continue to do so under the final reclamation condition. The cross sections received in December 2003 show the floor of the pit sloping to the west. Please resolve this discrepancy. (PBB)

110.5 Revegetation planting program

Section 7.5.3 of this plan states that natural drainage channels would not have to be re-established because none would have been intercepted during operations. Both Jones and Lime Canyons have been intercepted during operations and the upper portions will remain after mining ceases. Please state any mitigation efforts that will take place in these areas to address potential post mine drainage impacts. (TM+DJ)

Section 7.5.7 states that ripped/scarified areas would be amended by adding manure at the rate of five tons/acre.
Growth material within the areas to be revegetated will need to be tested to determine the amount of amendments that will be required prior to final reclamation actions. (DJ)

The seed mixture shown in Section 7.5 is adapted primarily to upland areas and to areas with reasonably good drainage. The Division offers the following suggestions:

1. There should probably be two separate seed mixes, one for the highwall benches and recontoured areas above the highwall, and another for the lower pad areas.

2. The mix shown in Section 7.5 includes mostly introduced species, most of which, although adapted to the site, are probably not necessary. For upland areas, the Division suggests deleting smooth brome, orchardgrass, alfalfa, crested wheatgrass, and Russian wild rye. The amount of yellow sweet clover should be reduced to no more than about 0.5 pounds per acre. In place of these species, the Division suggests including basin wild rye, thickspike wheatgrass, bottlebrush squirreltail, Lewis flax, and skunkbush

sumac at rates of 2, 3, 1, 0.5, and 1 pounds per acre of pure live seed, respectively. The amount of bluebunch wheatgrass should be increased to 3 pounds of pure live seed per acre. (To avoid confusion, the name "bluestem" wheatgrass needs to be changed to "bluebunch" wheatgrass.)

3. The pad area is more likely to have salt problems and probably needs some of the introduced species. For this area, the Division suggests adding basin wild rye, thickspike wheatgrass, bottlebrush squirreltail, and Lewis flax at the rates of 2, 3, 1, and 0.5 pounds pure live seed per acre, respectively. Crested wheatgrass, smooth brome, orchardgrass, and alfalfa should be eliminated, and the seeding rate for yellow sweet clover should be reduced to no more than about 0.5 pounds per acres.

The operator needs to commit to seed the area almost immediately after surface preparation. The plan says that, if possible, the reseeding program will be conducted in the fall following cessation of activities. Reclamation needs to be timed so seeding can be done in the fall; seeding at other times is rarely successful. The Division strongly suggests that the operator include a commitment to seed in the fall. If seed is applied at other times and revegetation fails, the Division will not consider that the revegetation work has been satisfactorily completed within practical limits (R647-4-111.13.12). (PBB)

R647-4-111 - Reclamation Practices

111.1 Public safety & welfare

1.14 Posting warning signs

Warning signs should be placed, at a minimum of every 200', around the site at closure, noting the hazards inherent with the site. (DJ)

1.15 Constructing berms/fences above highwalls

Berms, a minimum of four (4) feet high, should be place along the entire eastern edge of the quarry highwall. (DJ)

The City of North Salt Lake, who owns the property located along Staker's northeast property boundary, has proposed light residential in this area. Improved fencing should be placed in this area to prevent public access to the site. (DJ)

R647-4-112 – Variance

Highwalls R647-4-111

The plan requests a variance from this Rule because the ultimate highwall is located within an overall setting of similar highwalls with relative stability that is demonstrated by their age.
The highwall proposed by the present plan will be several hundred feet to the east of the existing highwalls. The stability of the present highwalls could reflect the stability of the final highwall, but studies that demonstrate the long term stability of the projected final highwall should be included in the plan. A demonstration of long term stability of these highwalls will be needed, before the Division can approve leaving them at angles greater than 45 degrees. The application for a variance in this area is denied until information is received that supports the long term stability of the final highwalls at an angle greater than 45 degrees. (DJ)

The plan also states that the final highwalls would blend with other existing highwalls.
None of the current highwalls within this area will exist when these final highwalls are completed. (DJ)

Soils R647-4-111.12

This section says topsoil is not available in the areas to be newly disturbed by the proposed operations and will not be available for redistribution. The Division is not willing to grant a variance for soil salvage in areas where soil can be salvaged. As discussed in Section 106.5 of this review, the Division believes there are soils that could be salvaged in the east portions of the permitted area, but a variance could be granted for previously disturbed areas where there is no available soil. These areas need to be delineated on a map as required under Section 106.6 of this review. This map, once approved, could also serve to show precisely which areas receive a variance. (PBB)

Revegetation R647-4-111.13

The operator also requests a variance from revegetation requirements because the areas proposed for disturbance are essentially not vegetated at the present time. The Division is willing to grant a variance for those areas ultimately developed for industrial use. The operator needs to establish vegetation on those portions of the pad that are not developed for an industrial use. This vegetation needs to meet the performance standard that it will have 70 percent of the cover of similar adjacent areas. Except for the highwall, this same standard applies to any other portions of the disturbed area where revegetation is required. (PBB)

Revegetation treatments need to be applied to the highwall benches, but a variance from revegetation standards may be appropriate for this area. The Division will defer a decision on granting this variance until the final highwall configuration has been determined. (PBB)

R647-4-113 - Surety

Section 9.4 of the surety states that 153.7 acres of pit floor will need to be revegetated.
The Final Limit Map received December 15, 2003 indicates that a total of 282 acres of pit floor will exist at the close of mining. Please rectify these differences and adjust the surety accordingly. (DJ)

This section states that the pit floor will be ripped to facilitate revegetation, but only areas that have been broken as a result of mining operations will be ripped. What reclamation efforts will be made in the areas that have not been broken by mining operations? Please include a justification of why the areas not broken by mining will not receive reclamation treatments. (DJ)

Please include an estimate of the amount of the total pit floor that will not be broken. The plan should discuss what activities would take place in the unbroken areas to facilitate revegetation, and the costs for these activities need to be included in the surety estimate. (DJ)

Section 9.5 includes a trash removal estimate for 15 acres of pit floor.
Because the operation is spread over such a large area, an estimate of ½ the total pit floor should be considered for clean up. (DJ)

This section states that a front end loader would be utilized during a ten day period to completely remove all equipment.
The costs for the rental of this piece of equipment is not included in the cost summary; please include. (DJ)

Section 9.7 states that equipment costs in the plan are for bare equipment.
Bare equipment cost does not include operating cost or operator wages for equipment being used on the site; please include these costs in the estimate. (DJ)